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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,120	08/25/2003	Stephen P. Farrell	ARC920030032US1	3193

67232 7590 12/10/2008
CANTOR COLBURN, LLP - IBM ARC DIVISION
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EXAMINER

THERIAULT, STEVEN B

ART UNIT	PAPER NUMBER
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2179

NOTIFICATION DATE	DELIVERY MODE
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12/10/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary	Application No. 10/648,120	Applicant(s) FARRELL ET AL.	
	Examiner STEVEN B. THERIAULT	Art Unit 2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 6-9, 11- 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6-9, 11- 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This action is responsive to the following communications: RCE filed 11/03/2008.
2. Claims 1, 6-9, 11- 16 are pending in the case. Claims 1 is the independent claims. Claims 2-5, 10, 17-22 have been cancelled.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/03/2008 has been entered.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 6-9, 11- 16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The first process in 101 examinations is to determine whether a claim recited eligible subject matter and falls within one of the four classes of invention. Claims 1-5, 7-11 reflect process claims but a process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform the underlying subject matter to a different state or thing *In re Bilski*. In this case, the claims clearly do not recite a process of transformation and the claims do not tie the process to another statutory class by reciting an apparatus (See also *Diamond v. Diehr*, 450 U.S. 175, *Parker v. Flook*, 437 U.S. 584, *Gottschalk v. Benson*, 409 U.S. 63 and *Cochrane v. Deener*, 94 U.S. 780). Therefore, the claims are rejected under the first test under 35 U.S.C 101 examination because the claims do not fall into one of the four classes of invention.

Claim Rejections - 35 USC § 103

5. **The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

The application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. **Claims 1, 6-9, 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchinson et al. (Patent No. 6152563) in view of Tognazzini et al. (Patent No. 5,731,805), in further view of Amir et al. U.S. Patent No. 6204828 filed Mar. 31, 1998 and published Mar. 20, 2001 (previously cited on 892).**

In regard to **Independent claim 1**, Hutchinson teaches a method of interacting with a monitor, comprising:

- Modifying a portion of an output displayed on a monitor by tracking an eye gaze and by monitoring an input indicator on the monitor that reflects a user's activity wherein the output comprises at least part of a stationary target object representing an interactive component comprising at least one of a button, a scroll bar, a hyperlink, or a menu (Hutchinson column 11, lines 55-60 and Figure 9 and column 1, lines 1-25 and column 2, lines 45-51). Hutchinson teaches the user's eyes are tracked to a stationary target such as a button.
- Wherein tracking the eye gaze comprises monitoring a user's eye movement in a direction of the stationary target object and further monitoring a trajectory of the input indicator on the monitor (Hutchinson column 2, lines 45-52 and column 4, lines 1-15). Hutchinson teaches the system monitors the eye movement and trajectory (See column 11, lines 1-20).
- Wherein the portion of the output is modified upon detecting the coincidence of the user's eye movement and the input indicator trajectory in the direction of the target object (See column 11, lines 45-50). Hutchinson teaches the area detected by the user's gaze is magnified.
- Identifying the stationary target object through eye-gaze tracking by identifying at least one particular pixel being gazed at by the user (Hutchinson column 7, lines 1-15).

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Hutchinson teaches determining the target by identifying the pixel on the screen the user is looking at (See also Figure 4 and 4a). Hutchinson also teaches the number of pixels for pixel length determinations is user adjustable (See column 55-56). While the preferred setting is 2 pixels, the user can enter a value they choose. Further, the minimum movement distance in pixels is also user adjustable and is set through the interface (See column 91-92).

- Wherein modifying the portion of the output comprises selectively expanding a target object region in the portion of the output (Hutchinson column 3, lines 35-50 and column 11, lines 45-52) Hutchinson teaches modifying the region by expanding it.

Hutchinson does not expressly teach:

- Wherein modifying the portion of the output further comprises selectively contracting a region surrounding the target object region in the portion of the output, to compensate for the expanded target object region.
- Further monitoring the input indicator to detect renewed activity comprising at least one detected movement of a cursor or a detected movement of the user's eye and, in response to the detected renewed activity, restoring the target object to an unmodified size and restoring the output displayed on the monitor to an unmodified appearance.

However, Tognazzini teaches a detected movement of the user's eye to modify a textual object on the screen (compare figure 10 and 11). Tognazzini teaches an eye-gaze tracking mechanism for text enlargement that expressly teaches a process of enlarging a target object of text and contracting a second object of text in the same screen for the purposes of utilizing the available screen area and not enlarging the window to display the text so that the user can see it in an enlarged manner (See figure 11, and column 14, lines 6-37). Tognazzini expressly recites a process to determine when to expand an article and shows the process in figure 13). Step 1305

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and 1306 monitor the users gaze and determine if the user is reading titles. The procedure specifically mentions the user is browsing the titles only and the text is not expanded. Further, Tognazzini teaches the (See column 14, lines 24-51) that the reduction and expansion can be set to operate by a user set command and can occur instantaneously. Additionally, Step 1319 of figure 13 shows a step that the text is reduced once a user is not reading the text and the system provides for the user to set their preference as to how the text is reduced once they stop reading it (See column 15, lines 1-41). Therefore, Tognazzini clearly shows a repetitive gaze monitoring step 1305 and in following the teachings as recited above, a user can view a title and the system will not expand the text. The user can gaze at the text of the article, and the system will expand the text and then decide they don't want to read it. By user preference, a gaze away from the text can cause an instantaneous revert back to original size of the text, which would revert the screen to the original size. At that point, the user can resume viewing titles only and never gaze at the text associated with the title, as it is the users gaze in Tognazzini that determines when to expand. The user gaze moves from title to title and the screen will be displayed as originally presented to the user in an unmodified appearance. An alternative scenario can be the user views a title and then the text and the system expands the article. The user setting is set to instantaneous snap back. The user can receive a phone call, which would take the gaze of the user away from the screen and the system would then determine that the user is not looking at the text or title and the system would wait to perform a function or until the user executes a command or gaze at the screen. The screen would remain displayed to the user in original form. The user returns to the screen and resumes gazing at the titles and never gazes at the text of the titles and therefore the screen would remain in its original state. There are a number of permutations that can be provided similarly where the user looks away from the screen and then glances back and the system will return the text to original size because that is what is explained in figure 13 as the procedure the system will follow. Coupled with the instantaneous reduction preference the Examiner can think of several more obvious variations of the theme presented

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above. Hutchinson and Tognazzini are analogous art because they both teach processes of eye-gaze tracking and both teach processes of tracking objects on the display.

Hutchinson in view of Tognazzini does not expressly teach

- the renewed activity comprising a detected movement of a cursor in combination with a detected movement of the user's eye

However, the analogous art of eye gaze tracking to Amir includes a procedure for incorporating a cursor with an eye-gaze tracking device. Hutchinson specifically teaches a mouse emulation system where the cursor tracks the position of the eye gaze of the user (See column 9, lines 50-55 and column 10, lines 60-67 and column 11, lines 32-45). However, Hutchinson does not teach where the renewed activity of the user in combination with the detected eye movement of the user and cursor performs a function. Tognazzini teaches a pointing device with a cursor is used in the system (See column 8, lines 10-18 and figure 1, 148). Tognazzini specifically teaches indicating where the user is looking with an indicator such as a circle, rectangle or other shape (See figure 3, and column 10, lines 1-20). Amir teaches that a cursor can be any image suitable for selecting targets and therefore the Examiners interpretation is that the circle of Tognazzini is a suitable selectable target shape. Further Amir teaches that the system monitors a user's inactivity by tracking the lack of inactivity through input devices. Once input is detected, the system determines the location of the last position before the inactive period. If the user gazes at the same spot then the cursor is applied, if not then the cursor is moved to the new location (See Amir column 9, lines 50-67 and column 10, lines 1-21 and figure 4).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Tognazzini and Hutchinson, to modify the system of Hutchinson to include the contraction/expansion feature of Tognazzini and to restore the screen to its original format after a gaze and include the activity tracking system of Amir. The motivation to combine comes expressly from the teachings within Hutchinson (See column 2, lines 1-25), that eye gaze technology allows handicapped users or other users to use the system and interact

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with the computer completely through eye movements. Further, Hutchinson teaches the system can be used in a variety of applications that require eye gaze functionality. Tognazzini teaches the expressed teaching of expanding a textual area when the predetermined amount of time of gaze has transpired (See Tognazzini column 9, lines 28-62). The motivation to combine Hutchinson with Tognazzini comes from the suggestion that the program can **modify its operation** to best suit the users needs by using a gaze tracking device to determine which area of the display screen is the object of the users attention (See Tognazzini column 10, lines 60-67), which would include expanding the gazed areas of Hutchinson display. Amir is also an example of a modified program to meet user's needs. Amir suggests where the integration of the cursor with the eye-gaze provides the benefit of reducing user fatigue and increasing selection speed by reducing the reliance on the mouse to move the cursor (See column 3, lines 1-15 and 30-40). Therefore, all three references provide the motivation to combine with one another for the purposes of improving and assisting the user to select objects on the screen through input devices such as a gaze tracking and a mouse.

With respect to **dependent claim 6**, Hutchinson teaches determining a modification time based on data derived concurrently from the user's eye gaze (See column 11, lines 40-50). Hutchinson teaches the user dwells on the location and a red rectangle is applied to the object for a certain period of time.

With respect to **dependent claim 7**, Hutchinson teaches determining a motion direction of the input indicator (see column 3, lines 50-67 and column 12, lines 26-40). Hutchinson teaches monitoring when the user drags or moves the cursor in a given direction.

With respect to **dependent claim 8**, Hutchinson teaches identifying the target object based on data derived concurrently from the eye gaze and the direction of movement of the input indicator (See column 11, lines 40-50 and column 12, lines 20-40).

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With respect to **dependent claims 9 and 11**, Hutchinson teaches the user can interact with menus and buttons (See column 11, lines 55-65). Hutchinson does not specifically mention identifying the portion of the output based on boundaries of interactive graphical user interface components. However, this limitation would have been obvious to one of ordinary skill in the art at the time of the invention, in view of Tognazzini, because Tognazzini teaches a process of determining text boundaries as shown in Figure 11, where there are four columns, and the expanding and contracting occurs around the text between the columns of data (See figure 11 and column 14, lines 6-51). Tognazzini also teaches the process of expanding the text is so that the user can interact with the text and read it (See column 15, lines 10-25). Tognazzini further teaches that the components, text, images, audio can be selected and magnified (See column 8, Lines 5-10).

With respect to **dependent claim 12**, Hutchinson teaches the input indicator is inputted by an input device that comprises any one or more of a mouse, a touch screen, a tablet computer, a personal digital assistant, a stylus, and a motion sensor (See column 12, lines 40-60 and column 3, lines 50-67).

With respect to **dependent claims 13- 16**, as indicated in the above discussion, Hutchinson in view of Tognazzini, teach every element of claim 5 and 12.

Hutchinson does not expressly teach *transforming the portion of the output by hiding an area of the monitor by an increase in side of the target object or moving one or more objects on the monitor towards one or more edges or reducing a size of one or more objects located adjacent the target object while maintaining a change or original appearance and restoring the target object to the original appearance when the eye-gaze indicates the object is no longer selected.*

However, these limitations would have been obvious to one of ordinary skill in the art at the time of the invention, in view of Tognazzini, because Tognazzini teaches a process of moving an object to the edges of the screen to accommodate the selected object (See figure 11) and a

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process of reducing the size of the objects within the screen adjacent to the selected object (See column 14, lines 6-67). Tognazzini also shows restoring the image to the original shape (see column 14, lines 24-50) and a process of hiding an area of the monitor that is covered by the enlarged object (See figure 12, objects behind are hidden or overlapped).

A reference to specific paragraphs, columns, pages, or figures in a cited prior art reference is not limited to preferred embodiments or any specific examples. It is well settled that a prior art reference, in its entirety, must be considered for all that it expressly teaches and fairly suggests to one having ordinary skill in the art. Stated differently, a prior art disclosure reading on a limitation of Applicant's claim cannot be ignored on the ground that other embodiments disclosed were instead cited. Therefore, the Examiner's citation to a specific portion of a single prior art reference is not intended to exclusively dictate, but rather, to demonstrate an exemplary disclosure commensurate with the specific limitations being addressed. In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). In re: Upsher-Smith Labs. v. Pamlab, LLC, 412 F.3d 1319, 1323, 75 USPQ2d 1213, 1215 (Fed. Cir. 2005); In re Fritch, 972 F.2d 1260, 1264, 23 USPQ2d 1780, 1782 (Fed. Cir. 1992); Merck & Co. v. Biocraft Labs., Inc., 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir. 1989); In re Fracalossi, 681 F.2d 792, 794 n.1, 215 USPQ 569, 570 n.1 (CCPA 1982); In re Lamberti, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976); In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

Response to Arguments

Applicant's arguments with respect to claims 1 and 6-9, 11-16 have been considered but are not persuasive. Applicant's arguments substantially incorporate the new claim limitations and therefore with the new grounds of rejection with the applied reference to Amir, the applicant's arguments are considered moot.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven B. Theriault whose telephone number is (571) 272-5867. The examiner can normally be reached on M, W, F 10:00AM - 8:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven B Theriault/
Patent Examiner
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